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STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

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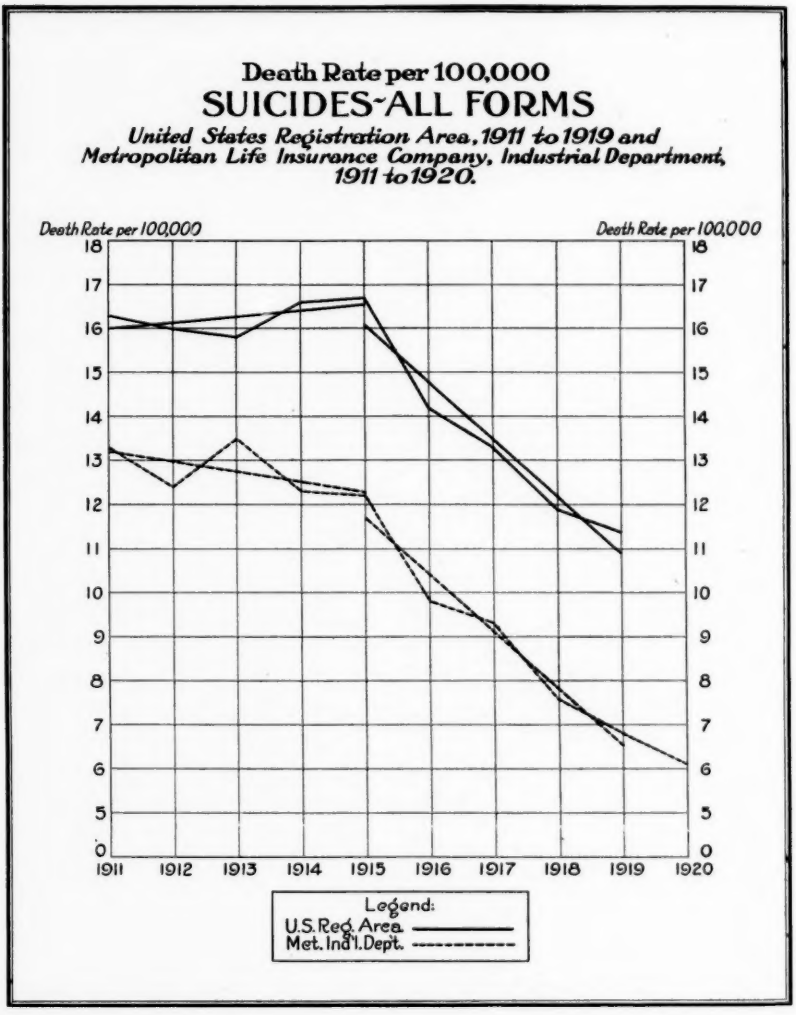
SUICIDE HAS INCREASED IN 1921.

There are indications that the downward trend in the suicide death rate which has continued since 1915 has received a decided check this year. During the first seven months of 1921, the rate from suicide among more than thirteen million Industrial policyholders was 7.3 per 100,000, which is an increase of 26 per cent. over the rate for the corresponding period of 1920. Other observers have noted the same facts in their respective fields. The National Committee for Mental Hygiene has called attention to the marked increase in the number of suicides, especially among ex-soldiers and others in the general population.

The suicide rates of the past ten years present some very interesting characteristics as shown on the accompanying graph. This graph points out that there have been two distinct periods within the last decade. First, there are the years 1911 to 1915, which preceded the intense industrial activity incident to the war. They were years of below-average economic prosperity, and we find only slight changes in the suicide death rate during this period. Wage earners show a slight decline; the general population of the Registration Area a slight increase. But, in neither case are the changes of great significance. The second period, beginning with 1915, shows marked changes. These were the war years of great economic expansion and increased prosperity for the great body of the American people. Every year, both among the insured and the general population, recorded marked declines in the suicide rate. The straight lines in the graph show the sharp tendency toward reduction. In 1920, the rate among insured wage earners was less than one-half what it had been in 1911.

Yet, in the later months of 1920, a fundamental change seems to have set in which has continued throughout the first seven months

of 1921. Month after month, the suicide rate is mounting over the corresponding figures for the months of 1920, and it is very likely that the rate for the whole year will be higher than for the preceding one. It is an interesting problem to know whether the unemployment



situation of the last year is, in fact, responsible for the observed conditions as to suicide. Are suicide rates a very sensitive index of the prevailing economic well-being of the people? It would seem so.

WHAT HAS REDUCED MORTALITY FROM ACUTE RHEUMATISM?

There has been a very marked decline in the mortality from acute rheumatism during the last ten years. This is as marked among the wage earners insured in this Company as in the general population. In both groups, the drop in the death rate in ten years has been about 40 per cent. This decline is not due to changes in nomenclature. During this ten-year period, there has been no corresponding increase in the reporting of septicemia, pyemia, blood poisoning or acute endocarditis as causes of death. These are the conditions which often cause or are associated with rheumatism, and it seemed at first that possibly the decline in the rate of rheumatism might be the result of a transfer of certification from rheumatism to these other causes. But, this is not true.

The undoubted decline in the death rate from acute rheumatism has attracted the attention of some of the most noted clinicians of the country and with whom we have been in correspondence. In general, it is their opinion that this decline is associated with and probably the consequence of the increased practice of tonsillar operations during the past decade. One of our correspondents says that it is his belief "that the chief causative factor of acute rheumatism is a focus of infection within the body and usually within the head, chiefly within the mouth and throat," and, also, "that the chief factor in the reduction of the death rate in acute rheumatism for the last ten years is due to the removal of foci about the head." The tonsils are the chief sites of infection within the head which are accessible for easy removal. Some of our other correspondents stress the importance of tooth infections as possible causes of acute rheumatism and point out that the last decade has been one of marked progress in mouth and tooth hygiene on the part of the public. Reference has also been made to the probable influence of the improvement of the milk supplies of cities. Large cities now almost uniformly require the efficient pasteurization of milk and this removes, in large measure, the possibility of epidemics of septic sore throat and other focal infections. We must also give due weight to the undoubted improvement in the diagnosis and treatment of cases of acute rheumatism. Doctors are rapidly becoming more familiar with the difficult symptomatology of the acute rheumatic infections and are treating their cases more successfully because they are identifying them earlier in the course of the disease before severe heart impairments are produced.

If these several factors are true causes, we may expect as time proceeds to get the accumulated result of their influence. It usually takes years for chronic focal infections to produce fatal cases of acute articular rheumatism, and, if the several activities which are reducing focal infections are, in fact, beginning to show results, it may well be that we have passed the peak in the number of newly damaged hearts and other organs and will, from now on, see fewer and fewer cases of and deaths from acute rheumatism. This is actually confirmed by one correspondent who calls our attention to the marked decline both in the number and in the severity of cases admitted to one of the largest hospitals in New York City.

Yet, much research remains to be carried out to clear up this difficult problem of the relationship between focal infection and the incidence of acute rheumatism. Newsholme's early observations, if confirmed, are important in this connection. He showed that in England, the disease apparently occurred in epidemic-like waves. We should, therefore, continue to be guarded in drawing final conclusions from the data now at hand. It is possible that the recent decline may be a reflex of the epidemiological characteristics of the disease and that only a part of it may be due to the surgical and hygienic treatment of the focal infections.

In any case, the facts at hand give much reason for continuing the education of the public as to the danger of focal infections and the necessity for early removal of infected tonsils and give justification to the work that is being done for mouth hygiene.

LESSONS FROM THE 1921 RECORD FOR PUERPERAL MORTALITY.

We have, on several occasions, called attention to the high death rate from conditions incidental to childbirth which prevailed in the year 1920. In that year, the rate was higher than in any year of the decade with the single exception of 1918. On further analysis, we found that this high mortality in 1920 was for the most part due to the recurrence of the influenza epidemic early in the year. This had the result of increasing very heavily the normal mortality from accidents of pregnancy and from accidents of labor. An interesting fact, however, which we could not in any wise attribute to the influenza, was the marked increase in the number of deaths from puerperal septicemia. The rate, 8.6 per 100,000, was even higher than in the influenza year, 1918, when it was only 7.3. The figures for puerperal albuminuria and convulsions in 1920 were also not favor-

able; nor could this be attributed to the minor influenza epidemic of that year. We, therefore, directed attention to these two conditions, namely, puerperal septicemia and puerperal albuminuria and convulsions, to determine why these causes had such an unfavorable record in spite of the very extensive work which had been done to control them during the past ten years by public and private agencies.

The conditions prevailing during the first seven months of 1921 have been no better than during 1920 for these two causes. The total rate from puerperal mortality has, to be sure, gone down very markedly, from 25.2 per 100,000 to 20.1. But, this saving is entirely the result of the lower mortality from such conditions as accidents of pregnancy and accidents of labor, which were influenced in the preceding year by the prevalence of influenza. The year 1921 has had very low influenza rates and this is reflected in the normal mortality from accidents of pregnancy and accidents of labor. Septicemia and albuminuria and convulsions, however, maintain the high death rates of the preceding year. During the first seven months of the year, the death rate from septicemia rose to 8.7 from 8.4 in 1920. The rate for albuminuria and convulsions is very little less than for the first seven months of 1920, 4.7 per 100,000 as compared with 4.9 last year.

The prevailing high death rate from these two causes warrants renewed concern by health authorities and obstetricians. Now that influenza conditions have ceased to increase the puerperal death rate, we are still confronted with the serious condition prevailing as to septicemia and puerperal albuminuria and convulsions. These are causes which very directly reflect the character of obstetrical service and the care which women receive during pregnancy and parturition. These conditions are not improving, and as to septicemia, the situation seems to be getting worse. In view of these facts, which were already noted at the end of last year, we made inquiry among a large group of obstetricians of the United States and Canada and asked for their comments. We are now able to summarize their replies.

Most obstetricians were, in fact, much surprised to learn that there had been an increase in the mortality from septicemia and eclampsia. Others who had noted the unfavorable tendencies, suggested that the higher maternal death rates may have been due to the increased employment of manual and instrumental aids to labor. It is a common impression that many physicians are needlessly using manual and instrumental means to hasten labor, often with disastrous results. Others have suggested that there is an increased tendency to disregard requirements of strict surgical asepsis in the

management of labor. The too close proximity of deliveries in general hospitals to cases of pus-surgery should also be considered. Some have suggested the importance of the periodic increase in virulence of the pus-forming organisms; they have also pointed to a possible connection between such conditions as scarlet fever, which has been unusually prevalent this year, and the septic complications in childbirth. The increased employment of midwives where families under present economic conditions are no longer able to afford hospital or skilled medical care, may have resulted in some of these added deaths. The last few years have seen a greater concentration of people into urban areas under very difficult housing conditions, and this may have played some part in the greater prevalence of puerperal septicemia.

An explanation of the unfavorable death rate from eclampsia which has prevailed during the last few years is more difficult to find. Emphasis is placed by our correspondents on the disturbed conditions such as follow war times. One correspondent says, "the increase seemed to be mostly in primiparae and, among these, particularly in 'war brides.'" Unsettled social and industrial conditions following war occur to a number of our correspondents as being responsible for the high eclampsia death rate.

The several explanations made above have not, of course, the authority of collective investigation. They were made by physicians in actual practice whose observations were limited necessarily to their own communities. Yet, all the points made are worthy of further inquiry. With this in mind, the Welfare Department of the Metropolitan Life Insurance Company early in the year instituted a study into the conditions prevailing among the cases of parturient women reached by the Company's nursing service. The facts developed by the study may well confirm some of the explanations offered by the medical profession. But visiting nursing does not, in many cases, reach the woman in labor. Much of the information needed for intelligent action against sepsis will have to be supplied by agencies dealing with the delivery process. Hospitals, obstetricians having good record systems, physicians in family practice, health departments having supervision over midwives, have access to the facts, and these data should be collected and published so that some of the mystery surrounding the recent trend of the sepsis and eclampsia rates may be dispelled. Such information may lead to a programme of corrective measures.

But even now, the remarkable success achieved in localized demonstrations in the proper care of pregnant women and in the wise management of labor has shown what the essential elements are in the control of puerperal mortality. They have demonstrated to the full that the present mortality from septicemia and eclampsia is almost entirely unnecessary. It is largely a matter of extending to the great body of women that type of intelligent care which, at present, only a relatively small number receive. More physicians engaged in obstetrical work must realize the unfavorable conditions which prevail at the present time and must safeguard their patients from those which result in albuminuria and convulsions and from the infections which cause septicemia. Communities in an organized way can aid the medical profession by making provision for maternity centers and clinics for the instruction and supervision of pregnant women, so that these women may make all necessary preparation for the best care of themselves in confinement and thereafter.

MORTALITY DURING FIRST SIX MONTHS OF 1921.

The following table presents the death rates among white and colored policyholders, respectively, for the first six months of this year as compared with the same periods of 1920 and 1919. The outstanding features of the presentation are the very much lower death rates from tuberculosis, heart disease and the respiratory disorders, especially pneumonia. The unfavorable features are the high rates for scarlet fever, diphtheria, puerperal sepsis, suicide and automobile accidents.

Death Rates per 100,000 Persons Exposed. First Six Months of 1919, 1920 and 1921 Compared By Color, for Principal Causes of Death. Industrial Department Metropolitan Life Insurance Company, Premium Paying Business.

Cause of Death	Death rates per 100,000 persons exposed					
	White			Colored		
	Jan.-J'ne 1921	Jan.-J'ne 1920	Jan.-J'ne 1919	Jan.-J'ne 1921	Jan.-J'ne 1920	Jan.-J'ne 1919
All causes of death	850.8	1115.0	1208.2	1363.8	1744.9	1799.4
Typhoid fever	3.7	4.3	4.4	6.8	8.0	11.0
Measles	5.3	14.7	4.9	2.5	5.6	3.1
Scarlet fever	10.0	8.1	4.8	3.5	.5	.4
Whooping cough	4.6	7.9	3.3	7.6	9.7	2.1
Diphtheria and croup	25.7	25.1	20.9	6.0	6.3	6.4
Influenza	10.8	96.0	177.0	23.7	149.5	217.3
Tuberculosis—all forms	107.2	136.6	150.1	278.0	319.3	329.6
Tuberculosis of lungs	96.4	123.2	136.2	253.2	292.9	300.9
Tuberculous meningitis	5.4	6.7	6.9	6.3	6.8	10.6
Other forms of tuberculosis	5.3	6.8	7.0	18.5	19.6	18.0
Meningitis — total	5.3	6.9	8.3	5.4	9.4	6.2
Cerebrospinal meningitis	4.2	5.7	6.7	4.4	7.9	5.7
Cerebral hemorrhage; apoplexy	59.1	64.6	58.7	90.0	93.8	93.4
Organic diseases of heart	116.5	130.4	121.0	173.8	192.6	184.4
Total respiratory diseases	99.5	186.9	201.4	156.7	298.5	312.9
Bronchitis	6.5	11.7	10.7	12.4	14.6	13.3
Bronchopneumonia	30.1	54.8	53.6	39.0	63.2	64.3
Pneumonia-lobar and undef.	54.2	107.5	127.0	92.9	205.0	219.5
Other dis. of resp. system	8.7	12.9	10.1	12.4	15.7	15.8
Diarrhea and enteritis	10.4	10.7	10.8	10.8	10.5	15.2
Under 2 yrs.	3.9	4.7	5.0	2.4	3.6	3.8
2 yrs. and over	6.5	6.1	5.8	8.4	6.9	11.5
Nephritis and Bright's disease	71.3	81.5	80.0	124.2	139.9	138.0
Total puerperal state	20.7	26.1	23.2	29.1	34.2	25.9
Puerperal septicemia	9.7	8.3	6.5	12.9	13.7	11.0
Puerperal albuminuria and convulsions	4.5	4.7	4.8	7.3	7.1	4.5
Other dis. of puerperal state	6.5	13.1	11.8	8.9	13.4	10.3
Total external causes*	61.8	63.0	101.6	92.5	87.0	113.5
Suicides	7.7	6.2	7.8	5.3	4.1	4.9
Homicides	3.5	3.1	3.7	26.1	20.2	29.6
Accidental and unspecified violence**	50.4	53.1	59.2	61.0	62.3	65.0
Accidental drowning	5.9	4.2	†	6.0	5.3	†
Automobile accidents	10.6	8.1	†	8.1	4.4	†
War deaths	.2	.7	30.9	.1	.4	14.0
All other and ill-defined causes of death	238.9	251.9	237.7	353.2	380.0	339.8

* Includes "war deaths." ** Excludes "war deaths." † Data unavailable.

HEALTH RECORD FOR JULY, 1921.

The death rate for July (7.7 per 1,000 Industrial policyholders) is the lowest on record for the Company with the single exception of that for August, 1919, when a figure of 7.6 was registered. It marks a reduction of 6.1 per cent. from the rate for July, 1920, and one of 12.5 per cent. from that of July, 1919.

The low death rate for the month is due in large measure to still greater reductions in the figures than those to which we have called attention in recent months for tuberculosis, heart disease, pneumonia, and Bright's disease. While the above are the most important factors, reduced rates for scarlet fever, diphtheria, cancer, cerebral hemorrhage, puerperal diseases, suicides, homicides and automobile accidents also operated to bring about the low rate for July. It is indeed encouraging to be able to record a lower rate for automobile accidents than was registered for July of last year and one that is 25 per cent. below that of June of this year. While we cannot conclude, on the strength of the record for a single month, that this denotes or even indicates a permanent turn for the better, it is most encouraging to note a check in midsummer, when this class of fatalities usually reaches its maximum. Perhaps the publicity given to this subject in recent months by the daily press, popular and scientific magazines, and by organizations interested in public health and safety, has so stirred the health and police authorities of the country, that they are taking really effective measures for the control of automobile accidents. The developments of coming months will be awaited with interest by all agencies which have taken part in the campaign to reduce the mortality from this cause.

The health situation among the general population of the large cities of the country continued favorable, even though the death rate was 10.9 per 1,000 population as compared with 10.3 for July, 1920. There was a slight reduction from the figure for June, 1921.

Typhoid fever is showing evidence of the usual rise that begins at this time of the year. It has been especially prevalent in Georgia, Louisiana, Mississippi, North Carolina and Kentucky. A mild epidemic developed at Camp Roosevelt, Michigan, and a more severe one in the village of Hilliard, Ohio. An outbreak of 18 cases at Woonsocket, R. I., was traced to infected milk. An outbreak of typhoid in Kentucky prompted the United States Public Health Service to send assistance. During the first half of the year, in North Carolina, an increase of 87 per cent. in typhoid cases, as compared with the first half of 1920, was recorded. The State Board of

Health has issued a general warning to the people to take all possible precautionary measures.

Poliomyelitis is unusually prevalent throughout the country. In New York State more cases occurred during the month than in any July since the epidemic of 1916. Health Commissioners of fifty Northern Ohio cities met in Akron on August 2d to discuss the poliomyelitis situation in the state. There were 21 cases reported in July. Three cases were reported to the Baltimore Health Department during the second week of the month and three cases were recently reported at Paterson, N. J. The disease seems to be increasing in Illinois.

Smallpox has been prevalent at Dupo, Illinois; North Tonawanda, New York; Fort Wayne, Indiana, and in a number of places in California and Nebraska. Provisional returns for a number of states show more smallpox cases during the first six months of 1921 than during the whole of 1920.

The attention of public health officials in the South is now focused on the increase in pellagra.

Reports of cases of the rarer epidemic diseases emphasize the presence of Rocky Mountain spotted fever in Montana and in Lassen County, California; of leprosy, one case of which occurred in Washington, D. C.; of bubonic plague, with a case in San Benito County, California, and of three cases of typhus fever: one in Cleveland and two in Temple, Texas. Among the most noteworthy health activities, the following may be mentioned:

Local campaigns against the malaria mosquito have been begun in Lake Charles and Baton Rouge, Louisiana. The General Assembly of Ohio passed a bill amending previous legislation so that any county with a population of 50,000 or more, may erect its own tuberculosis hospital. Wisconsin is to have a Department of Public Health Nursing, and a new Division of Child Hygiene has been established in Nebraska. The Vermont Legislature has passed an amendment providing for the payment of 25 cents to physicians for each report of a communicable disease. The United States Senate passed the Sheppard-Towner bill and Sweet bill. The last Tennessee Legislature passed a bill excluding children having tuberculosis from attending the public schools and providing that, under certain conditions, city or county boards of education should make provision for these children's education. According to a recent statement of the Pennsylvania State Board of Health, tuberculosis is being classed as a communicable disease and may be subject to quarantine in the State.

The table below displays the mortality data among Industrial policyholders for July and June, 1921, for July, 1920, and for the year 1920:

METROPOLITAN LIFE INSURANCE COMPANY.

Death Rates per 100,000 for Principal Causes, Premium-paying Business in Industrial Department. (Annual Basis)

MONTHS OF JUNE AND JULY, 1921, AND OF JULY, 1920.

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED			
	July, 1921	June, 1921	July, 1920	Year 1920
TOTAL—ALL CAUSES	768.5	922.2	823.0	989.4
Typhoid fever	7.2	5.3	5.6	6.7
Measles	2.9	3.1	7.5	8.5
Scarlet fever	4.6	8.0	2.7	6.0
Whooping cough	3.5	3.9	4.8	6.6
Diphtheria	13.0	19.8	12.5	22.1
Influenza	2.6	4.2	8.3	53.5
Tuberculosis (all forms)	106.3	134.3	133.7	137.9
Cancer	68.1	77.4	68.4	69.8
Meningitis (all forms)	5.2	5.6	5.7	5.2
Cerebral hemorrhage	51.1	58.9	48.7	61.3
Organic diseases of heart	98.8	120.4	101.6	117.0
Pneumonia (all forms)	28.1	55.1	34.3	106.1
Other respiratory diseases	8.8	13.9	11.5	18.2
Diarrhea and enteritis	20.7	13.6	18.2	15.8
Bright's disease	58.4	72.6	64.3	70.8
Puerperal state	16.4	20.9	19.5	23.0
Suicides	6.9	7.8	6.1	6.1
Homicides	6.2	7.6	5.4	5.8
Other external causes (excluding suicides and homicides)	75.3	67.0	73.6	60.1
Traumatism by automobile	10.4	13.9	13.6	11.1
All other causes	184.4	222.8	190.6	188.9

Correspondence on the subjects discussed in these BULLETINS may be addressed to the Editor:

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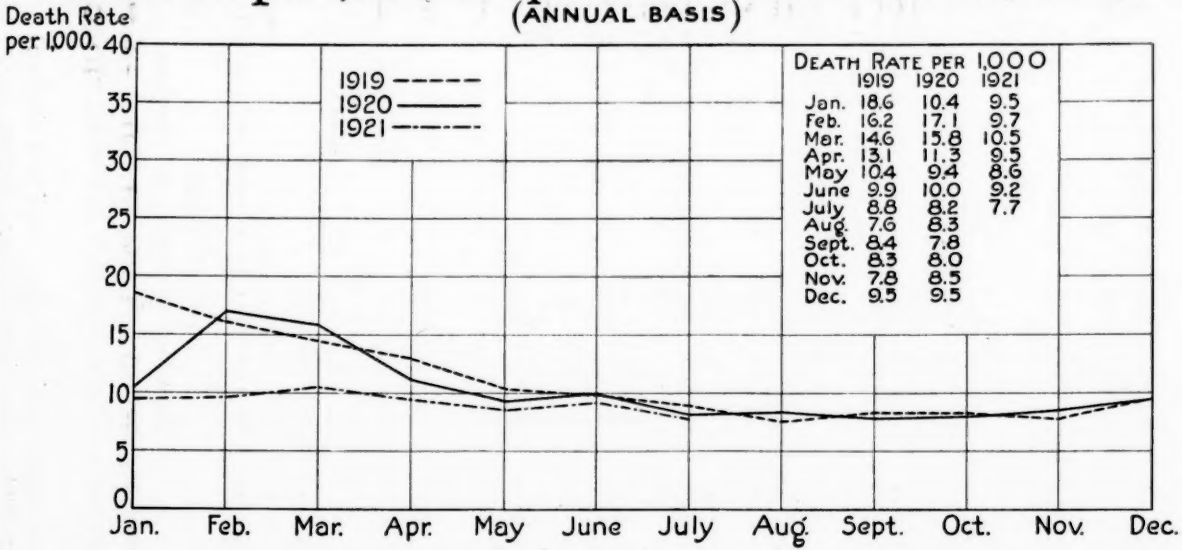
Metropolitan Life Insurance Co.

INDUSTRIAL DEPARTMENT

Death Rate per 1,000 in Specified Months of 1919, 1920, 1921.

(ANNUAL BASIS)



DEATH RATE PER 1,000	1919	1920	1921
Jan.	18.6	10.4	9.5
Feb.	16.2	17.1	9.7
Mar.	14.6	15.8	10.5
Apr.	13.1	11.3	9.5
May	10.4	9.4	8.6
June	9.9	10.0	9.2
July	8.8	8.2	7.7
Aug.	7.6	8.3	
Sept.	8.4	7.8	
Oct.	8.3	8.0	
Nov.	7.8	8.5	
Dec.	9.5	9.5	

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